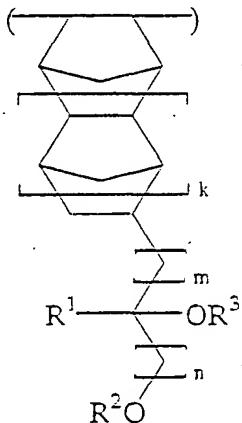
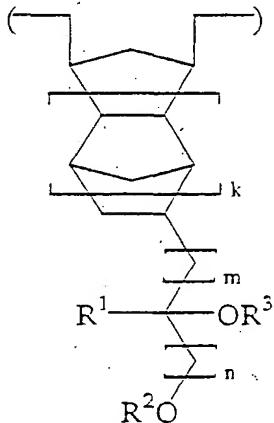


CLAIMS:

1. A polymer comprising recurring units of the following general formula (1-1) or (1-2) derived from the ether compound of the above formula (1) and having a weight average molecular weight of 1,000 to 500,000,



(1-1)

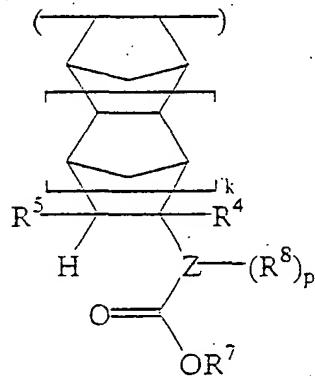


(1-2)

5

wherein k, m, n, and R¹ to R³ are as defined above.

2. The polymer of claim 1, comprising, in addition to the recurring units of formula (1-1), recurring units of the 10 following general formula (2-1):



(2-1)

wherein k is as defined above,

R⁴ is hydrogen, methyl or $\text{CH}_2\text{CO}_2\text{R}^6$,

R⁵ is hydrogen, methyl or CO_2R^6 ,

R⁶ is a straight, branched or cyclic alkyl group of 1 to 15 carbon atoms.

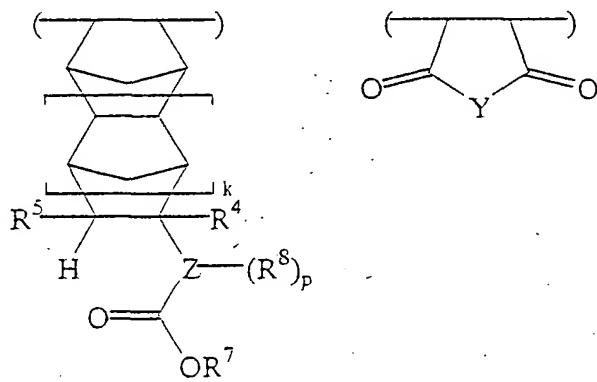
R⁷ is an acid labile group,

R⁸ is selected from the class consisting of a halogen atom, a hydroxyl group, a straight, branched or cyclic alkoxy, acyloxy or alkylsulfonyloxy group of 1 to 15 carbon atoms, and a straight, branched or cyclic alkoxy carbonyloxy or alkoxyalkoxy group of 2 to 15 carbon atoms, in which some or all of the hydrogen atoms on constituent carbon atoms may 10 be substituted with halogen atoms,

Z is a single bond or a straight, branched or cyclic (p+2)-valent hydrocarbon group of 1 to 5 carbon atoms, in which at least one methylene may be substituted with oxygen to form a chain-like or cyclic ether or two hydrogen atoms 15 on a common carbon may be substituted with oxygen to form a ketone, and

p is 0, 1 or 2.

3. The polymer of claim 1 comprising, in addition to the 20 recurring units of formula (1-1), recurring units of the following general formulae (2-1) and (3):

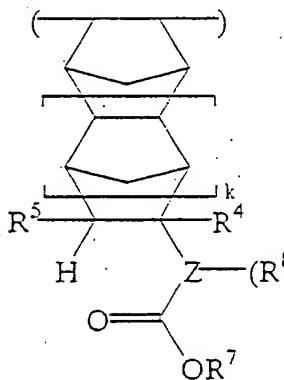


(2-1)

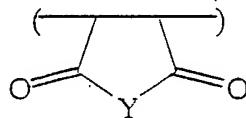
(3)

wherein Z, k, p and R⁴ to R⁸ are as defined above, and Y is an oxygen atom or NR⁹ wherein R⁹ is a straight, branched or 25 cyclic alkyl group of 1 to 6 carbon atoms.

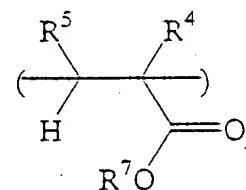
4. The polymer of claim 1 comprising, in addition to the recurring units of formula (1-1), recurring units of the following general formula (4) alone or in combination with recurring units of the following general formula (2-1), and 5 recurring units of the following general formula (3):



(2-1)



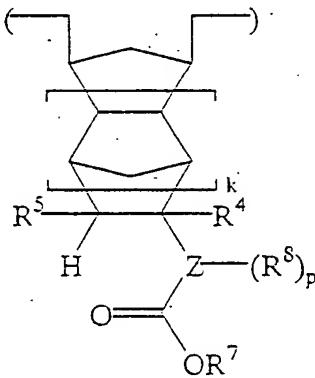
(3)



(4)

wherein Y, Z, k, p and R⁴ to R⁸ are as defined above.

5. The polymer of claim 1 comprising, in addition to the recurring units of formula (1-2), recurring units of the following general formula (2-2):



(2-2)

wherein Z, k, p and R⁴ to R⁸ are as defined above.

15 6. A resist composition comprising the polymer of claim 1

7. A process for forming a resist pattern comprising the steps of:

applying the resist composition of claim 6 onto a substrate to form a coating,

5 heat treating the coating and then exposing it to high-energy radiation or electron beams through a photo mask, and

optionally heat treating the exposed coating and developing it with a developer.